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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,608	12/23/2004	Salvatore Pappalardo	02-CT-104/DP	9027
25235	7590	09/21/2007		
HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEENTH ST DENVER, CO 80202			EXAMINER CARTER III, ROBERT E	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 09/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/518,608

**Applicant(s)**

PAPPALARDO ET AL.

**Examiner**

Robert E. Carter

**Art Unit**

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06/28/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. The amendment filed on 06/28/2007 has been entered and considered by the examiner.

**DETAILED ACTION**

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 recites the limitation "said first and second means" in lines 1 and 2.

There is insufficient antecedent basis for this limitation in the claim.

For the purposes of examination the examiner interpreted the first and second means to be the first and second switches.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 2629

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (Fig. 1) in view of Adam (US Patent # 4,499,388).

As for claim 6, Applicant's admitted prior art (Fig. 1) discloses.

*A module for driving a row in a liquid crystal display comprising:*

*an inverter (T7, T10) having first (line between VLCD and T10) and second (line between VSS and T7) power terminals;*

*a first (VLCD) and a second (VA) supply voltage; and*

*a third (VB) and fourth (VSS) supply voltage, wherein the inverter is driven by a logic circuit (1) and provides a drive signal for the row (Page 3, line 28 – Page 4, line 9).*

Applicant's admitted prior art (Fig. 1) does not teach an inverter operating between two switches.

In the same field of endeavor (i.e. four voltage level selection circuits) Adam (Figs. 1a, 2, 3) discloses:

*A module comprising:*

*an inverter (T21, T22) having first (line between T11, T12, and T22) and second (U) power terminals;*

*a first switch (T11, T12) for coupling the first power terminal of the inverter to a first (U3)*

Art Unit: 2629

*or a second (U1) supply voltage; and*

*a second switch (MT, ZT) for coupling the second power terminal of the inverter to a third (U2) or fourth (U0) supply voltage, wherein the inverter is driven by a logic circuit (Fig. 3)*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the four voltage selection circuit for driving an LCD row in Applicant's admitted prior art (Fig. 1) with the four voltage selection circuit in Adam to reduce the output resistance of the selection circuit (Adam, Col. 1, lines 38-42).

As for claim 1, this claim recites the same limitations as claim 6 above, and therefore is rejected as per claim 6 above. Claim 1 differs from claim 6 in that the limitations of first and second supply lines are additionally recited. The limitations "a first and a second supply line" is taught by Adam as previously addressed in claim 6 (i.e. inverter, power terminals, switches)

Adam teaches these limitations as outlined below:

*an inverter (T21, T22) operating in a supply path between a first (T11, T12, line between T11, T12, and T22) and a second (MT, ZT, T21) supply line of said system, said first supply line comprising a first switch (T11, T12) ...and said second supply line comprising a second switch (MT, ZT)*

As for claim 2, Applicant's admitted prior art (Fig. 1) as modified by Adam teaches:

*wherein said inverter comprises a PMOS transistor (T21) and a NMOS transistor (T22).*

Art Unit: 2629

As for claim 7, this claim recites the same limitations as claim 2 above, and therefore is rejected as per claim 2 above.

As for claim 8, Adam teaches:

*wherein the first and second supply voltages have different values, and the third and fourth supply voltages have different values (Col. 3, lines 6-15, 36-40).*

As for claim 3, Applicant's admitted prior art (Fig. 1) teaches:

*wherein the value of said first supply voltage (VLCD) exceeds said second supply voltage (VA), and the value of said second supply voltage exceeds said third supply voltage (VB), and the value of said third supply voltage exceeds said fourth supply voltage (VSS), (See (Fig. 1), Page 3, line 28 – Page 4, line 9).*

As for claim 4, Applicant's admitted prior art (Fig. 1) teaches:

*a logic signal (LOW\_FRAME) that controls respectively the connection of the first or second supply voltage and the connection of the third or fourth supply voltage according to whether a frame is uneven or even (See (Fig. 1), Page 2, lines 14-24 ).*

Adam et al. teaches:

*wherein said first and second means are controlled by a logic signal (A, B) that controls respectively the connection of the first supply line to said first or to said second supply voltage and the connection of the second supply line to said third or to said fourth supply voltage (Col. 3, lines 26-32).*

Combining applicant's admitted prior art and Adam meet the claim limitations.

*As for claim 5, Applicant's admitted prior art (Fig. 1) teaches:*

Art Unit: 2629

*wherein said logic circuitry (1, C1) comprises a logic device (1) capable of supplying an additional input logic signal (A) to an elevator device (C1) capable of raising the level of said additional logic signal for driving said inverter (See (Fig. 1), Page 2, lines 14-24).*

As for claim 9, Applicant's admitted prior art (Fig. 1) as modified by Adam teaches:

*wherein the first and second switches are driven by a logic signal, the state of the logic signal being determined by whether a frame is uneven or even (Applicant's admitted prior art (Fig. 1) [0008]).*

As for claim 10, Applicant's admitted prior art (Fig. 1) teaches:

*further comprising a level shifter (See (Fig. 1), Page 2, lines 14-24).*

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

9. In view of the amendment and arguments, the reference of Adam has been used for a new ground of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Morokawa (US Patent # 5,101,116) discloses four voltage level selection circuit for driving an LCD display.

Yuyama et al. (US Patent # 4,408,135) discloses a four voltage level selection circuit.

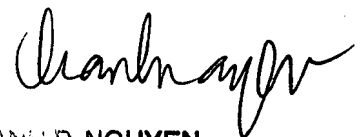
Art Unit: 2629

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert E. Carter whose telephone number is 571-270-3006. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on 571-272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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